Application of Fourier series for modelling forest fires in the Russian Far East

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In the report, we discuss the relationship between the frequency of forest fires in the Russian Far East and the bursts of solar activity. We demonstrate the cointegration between the two variables and estimate the parameters of the model involving a Fourier series. The model is then verified against the data and used to forecast the burned area. Such forecasting helps to reduce the environmental and economic damage.

Joint work with Elena Oleinik (Far Eastern Federal University, Russia).